Electronic Supplementary Information (ESI)

Wafer-scale production of the vertical SnS multilayers for high-performing photoelectric devices

Malkeshkumar Patel,[a] Hong-Sik Kim,[a] Joondong Kim [a*]

[a] Photoelectric and Energy Device Application Lab (PEDAL), Department of Electrical Engineering, Incheon National University, 119 Academy Rd. Yeonsu, Incheon, 406772, Korea.

E-mail: joonkim@incheon.ac.kr

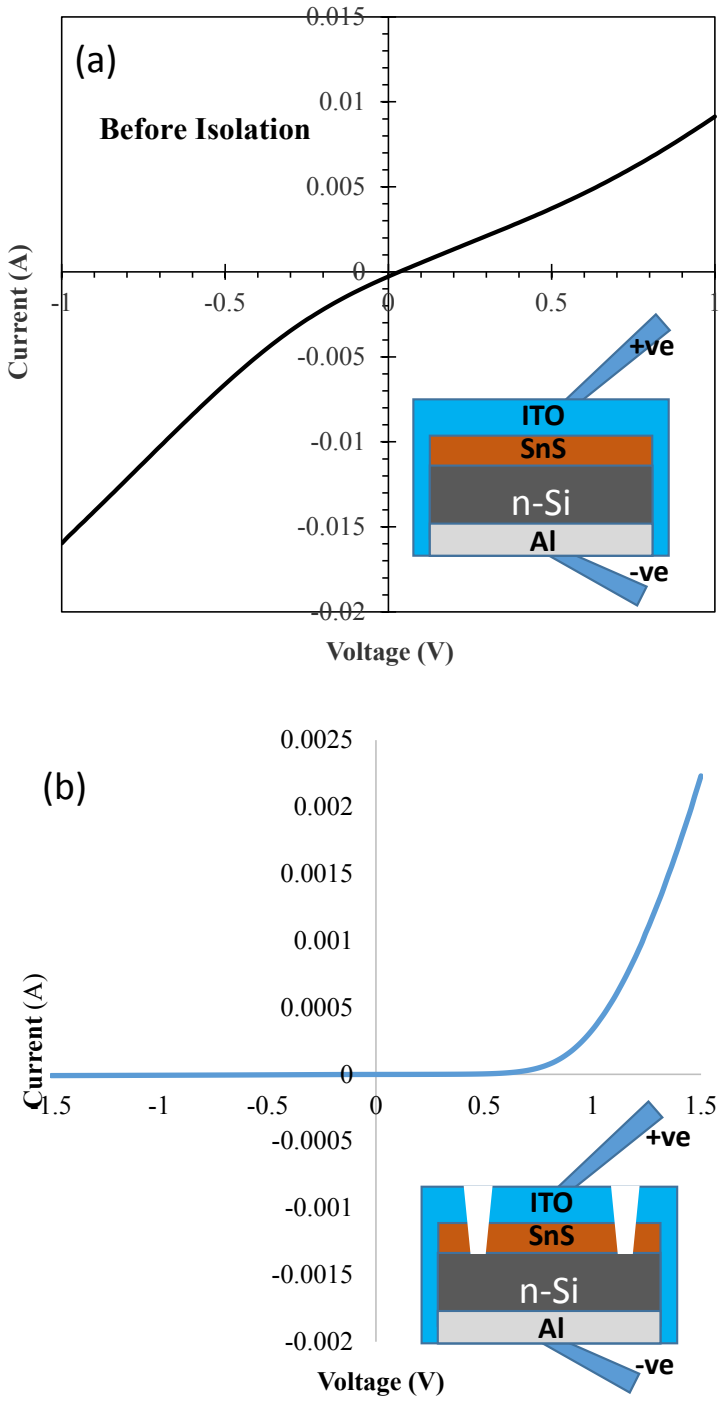

Fig. S1 Current-voltage characteristics of the ITO/SnS layers/Si/Al device. Dark I-V characteristics before (a), and after (b) isolation. Inset shows the schematics of the device.

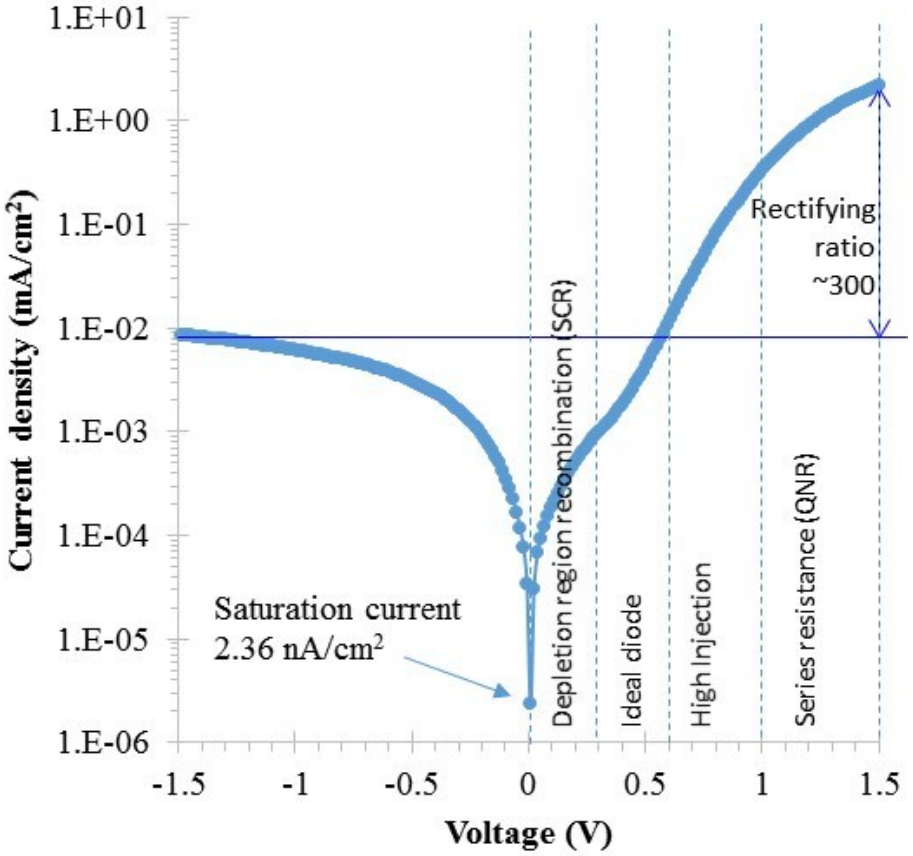

Fig. S2 Log(J)-V characteristics of the ITO/SnS layers/Si/Al device.

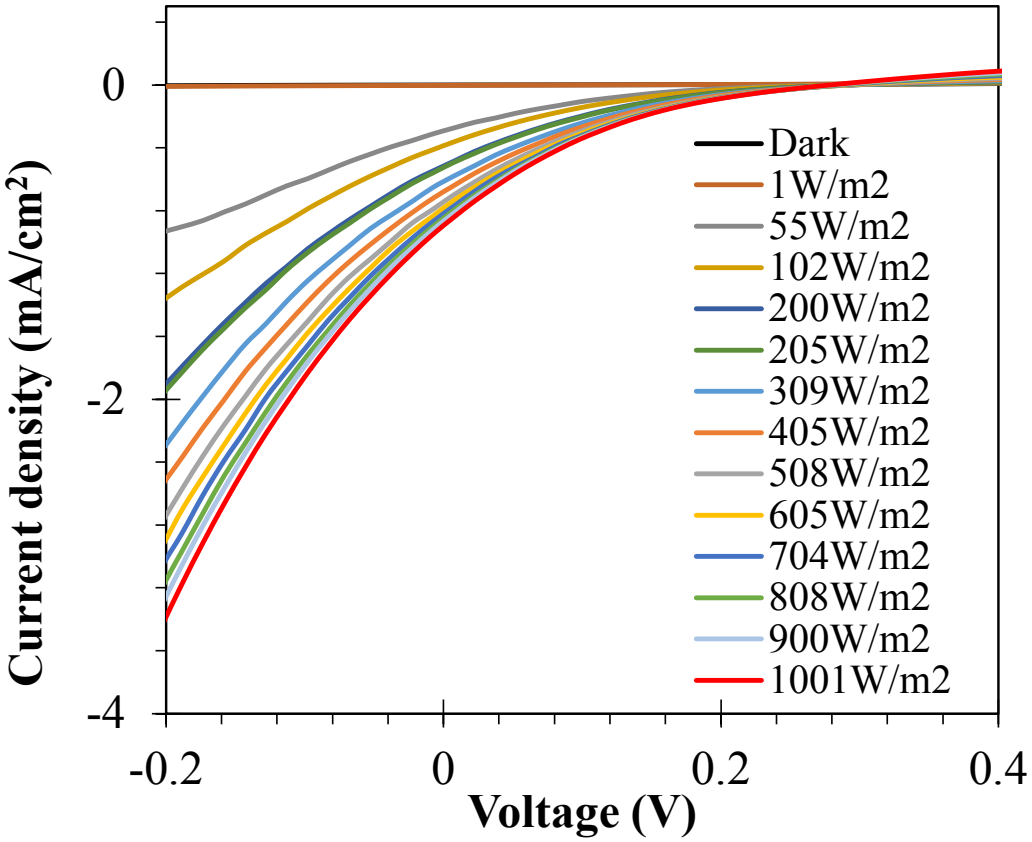

Fig. S3 *J-V* characteristics of the ITO/SnS layers/Si/Al device.

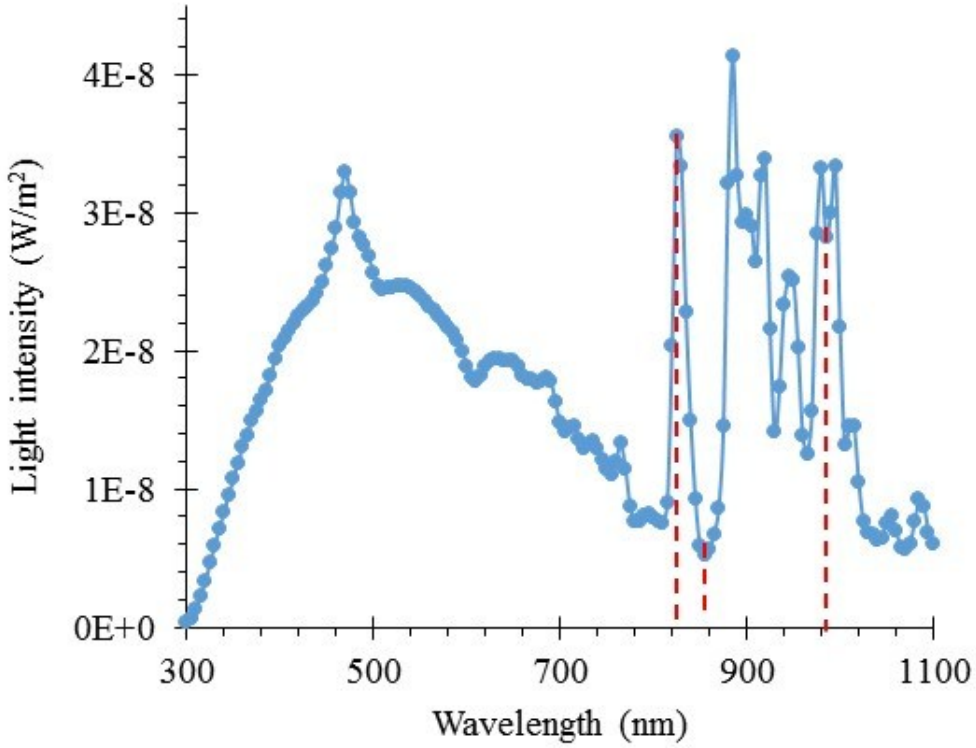

Fig. S4 Spectral power distribution as a function of photon wavelength for studying the quantum efficiencies.

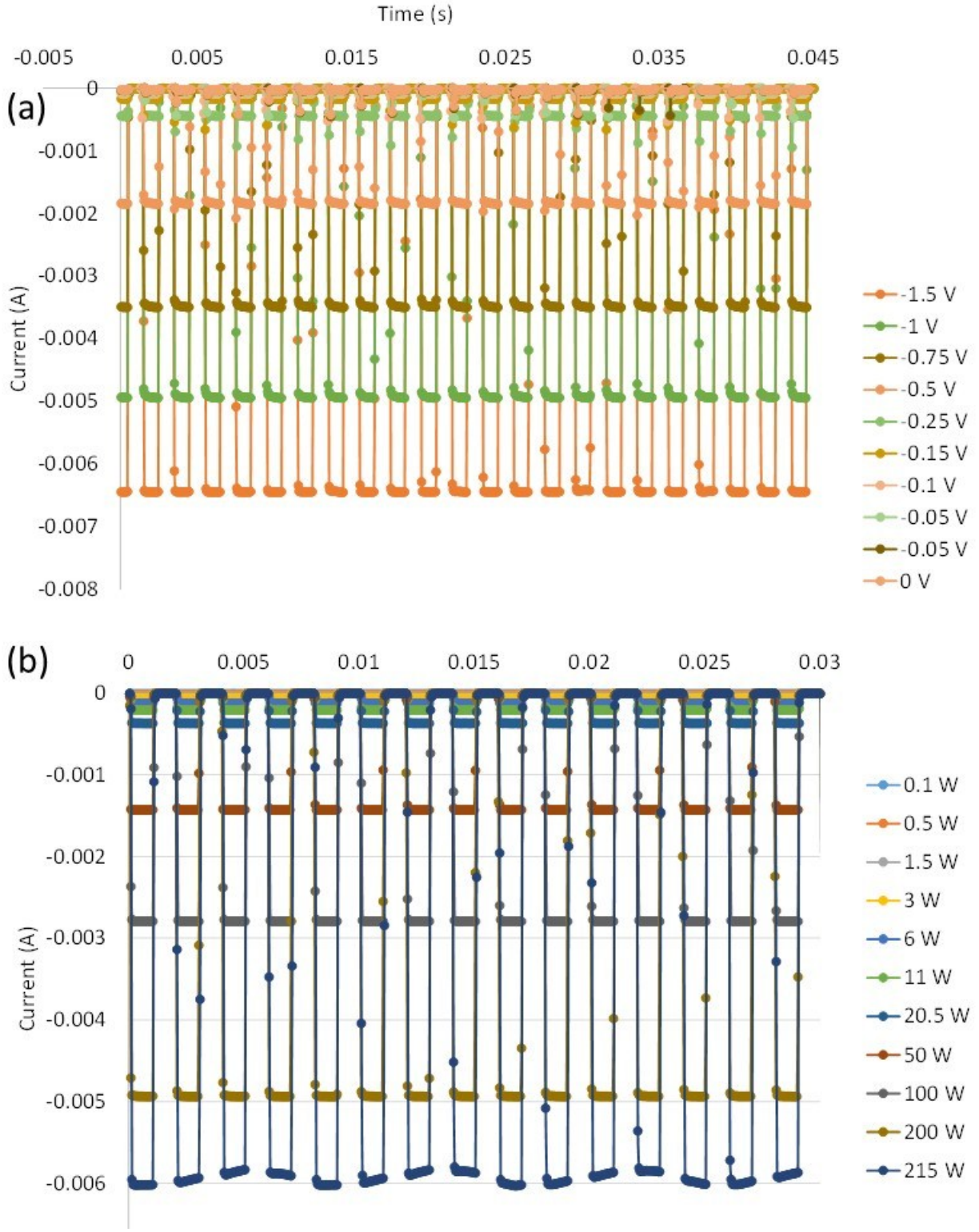

Fig. S5 Photoresponse of SnS/n-Si device for variation of (a) bias, (b) light intensity. Wavelength of the light source is 850 nm.

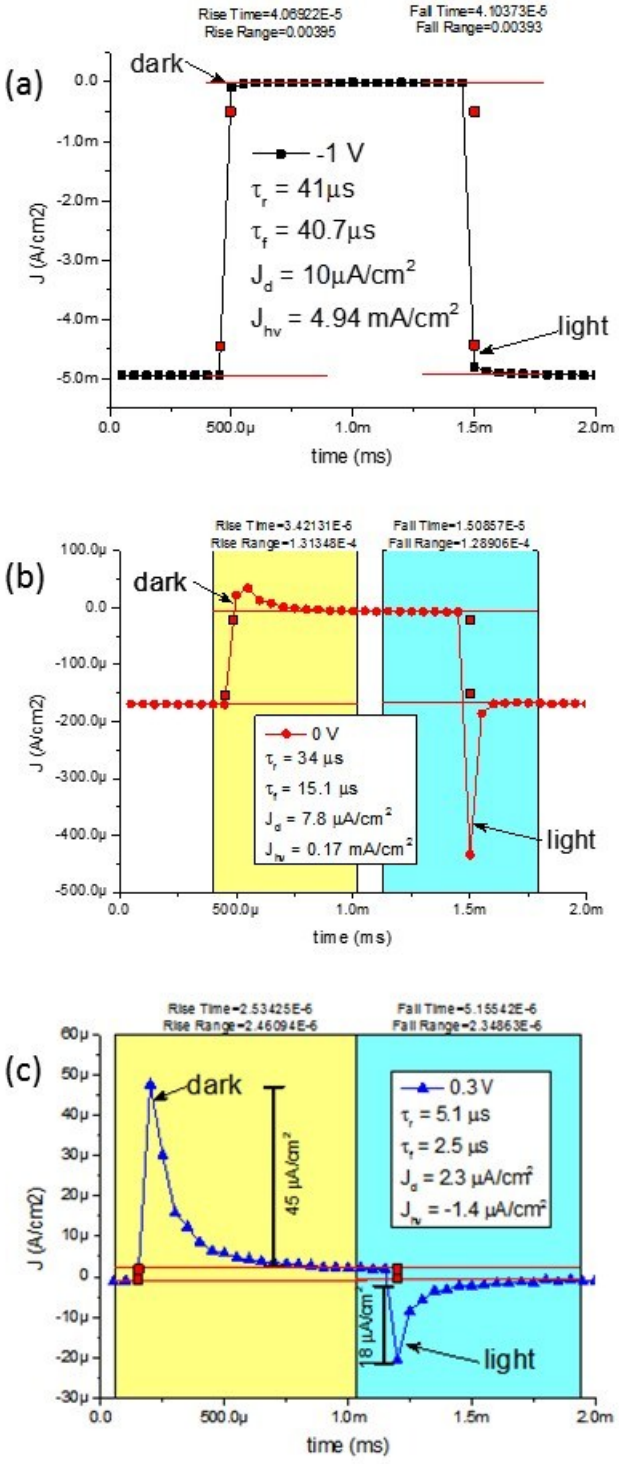

Fig. S6 Photoresponses of the ITO/SnS layers/Si/Al device with bias at (a) -1 V, (b) zero bias, and (c) 0.3 V (near the V_{OC}).